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PRA Climate Change Stress-Testing: Key Requirements

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Key requirements

Climate change risk is a significant threat to the soundness and stability of the financial system. Consequently, the PRA intends to assess this risk via the next Biennial Explanatory Scenario (BES) exercise, as summarised below:

Participants & Timing

- The BES, as opposed to the annual cyclical scenario (ACS), is aimed at both the **UK banking and insurance sector**. The broader participation will help the PRA to test the resilience of climate change effect of **all parts of the financial system.**
- Banking participants will be those that usually participate in the PRA ACS stress tests.
- For large Insurers, a set of BES scenarios will be added to the 2021 insurance stress test, avoiding the need for two separate exercises.
- **Insurers** were **already involved** with some exploratory scenarios in relation to climate change with their **2019 stress test** and will now incorporate BES-aligned climate scenarios.
- Smaller institutions, which are not regulated by the PRA are also welcome to make use of the BES scenarios for their own management of climate-related risks.
- The PRA is expecting to **launch the BES** in **mid-2021**, giving institutions time to enhance their **capabilities** in order to deliver to a **high standard**.

Scenarios

- The BES will test the resilience of the UK Financial System against **3 climate-related scenarios**, capturing different severities **of climate change risk**:
  1. Early policy action scenario**,** where early and decisive actions are taken to reduce global emission in a gradual way.
  2. Late policy action scenario, where action to address climate change is delayed by 10 years.
  3. No additional policy action scenario, where there is a failure to introduce policies to address climate change.
- The BES scenarios introduce **new climate risk variables**, along with the standard macroeconomics variables.
- Participants also need to carry out **scenario expansion** to sectors or regions not included in the BES scenarios.
- In addition, participants should identify **scenario variables** that are relevant for each counterparty in order to perform counterparty-level analysis.

Sizing the Risk

- BES participants should project their entire balance sheet over a **30 year horizon with 5-year reporting intervals** in order to capture the impact of climate change over a **long horizon**.
- The BES requires the use of **a fixed-balance sheets** as the focus is not on testing bank capital adequacy but on **sizing the climate change risk** under each scenario time horizon.
- The key reporting metrics are the **impairment charge** for the banking book and the **change in fair value asset** for the trading book. The breakdowns should be carried out at high-level geographic and sector level, but a more **detailed and granular** reporting will be required for **at-risk sectors and regions.**
- Participants are expected to take a **bottom-up approach** and perform a **counterparty-level assessment** for at least **80%** of their **exposure to corporates.**
- For the top 50 counterparties (size and risk exposure), **detailed modelling assumptions**, including the counterparty adaptability to climate change are required

Sizing the Response

- For the second part of the BES, participants are required to **understand challenges to their business model** in response to the risks for each scenario.
- **Management actions** should be **outlined** for each scenario, to assess how **business models** would change in response to each scenario (e.g. reduce exposures to the “at risk sector” and also redirect capital to capture new business opportunities).
- Participants are also required to submit their **own expectation of climate change** over the coming years, outlining their view of the most likely climate outcome, and judge **how resilient** they believe their **business mode**l to be.

Modelling Climate Change Risk

Modelling approach and steps proposed by the PRA

For the first submission on sizing the risks, BES participants are expected to evaluate the impact of the scenarios on their balance sheets. The PRA has proposed a 3-step modelling approach, which emphasises the usage of a bottom-up approach.

1 Map the scenario to the counterparty

- As a first step, BES participants need to **understand** the sectoral and geographical **climate risk vulnerabilit**y of each counterparty.
- The **identification of the scenario variables** that are relevant to each counterparty is required, in order to perform a granular counterparty-level assessments.
- Banks are required to project counterparty **revenues**, as the **scenario variables** provided will include pathways for both **energy supply prices and capital expenditure.**
- Counterparty **cost projections** should account for **EU carbon prices, sectoral emissions** and the operational impact of extreme weather.

2 Assess counterparty-level impact

- BES participants can adapt their existing **modelling framework** in order to assess the financial impact at counterparty level by using the **input variables** (e.g. revenues, costs) obtained from the scenario mapping step.
- The modelling framework should capture the **climate risk related vulnerability and profitability** of the counterparty from the scenario variables.
- The framework should also consider counterparty **risk mitigation and adaptation strategies to climate change.**

3 Check coherence against scenario

- The last step for the participants is to **aggregate the impact** of all individual counterparties across **portfolio sectors**.
- The net results should then be **compared** to the **sectoral pathways** provided by the **scenarios variables.**
- Where big gaps in high-level outcomes are observed, participants are required to perform **further analysis** to understand the impact of the modelling assumptions.

Expected Level of Granularity for Modelling

- Participants are required to perform **financial analysis** of the individual counterparties and their corporate exposures. This should also include **expert judgements** on each counterparty's position on climate change risk, potential climate-related business opportunities and **climate-risk mitigation plans**.
- For exposure to **corporates**, the PRA expects that **80%** of the BES participants' nominal exposure should be covered by a counterparty-level assessment. For the remaining **20%**, where sufficient data might be unavailable, participants should use simpler and less granular approaches.
- For exposures to **UK households**, banks are expected to analyse the impact of climate risk at **a regional granularity no less than 4-digit postcodes.**
- Participants are also required to perform **sovereign risk analysis,** which should include government exposures that are **most likely to be impacted** by climate change.

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